24 Mar 1992

AMCAB-A

AMMETER, CLAMP-ON

**1. GENERAL.** This application requires a clamp-on current and power meter, or probe and multimeter, capable of measuring ac and dc current and ac power.

**2. CLASSIFICATION.** Type II, Class 3, Style EP or ES, and Color R in accordance with MIL-T-28800 for shipboard applications.

**3. OPERATIONAL REQUIREMENTS.** The equipment shall operate within the minimum ranges and accuracies specified below. If a probe and multimeter combination is provided to meet this specification, the multimeter shall meet the requirements of the revision of purchase description MU2QT-( ) which is current as of the date of the solicitation for this equipment. The specified current probe shall meet the minimum specifications detailed below.

**3.1 Ranges and accuracies.** The instrument shall measure ac and dc current and ac power within the ranges and accuracies shown in table I.

TABLE I. Electrical Measurement Specifications

| FUNCTION | MEASUREMENT RANGE | ACCURACY |
|---|---|---|
| DC Current | 1 to 1,000A | 1 to 700A, 2% + 2A<br>700 to 1,000A, 3% |
| AC Current | 1 to 1,000A | 1 to 500A<br>dc to 62 Hz, 2% + 2A<br>62 to 440 Hz, 6% + 2A<br>500 to 700A<br>dc to 62 Hz, 3%<br>62 to 440 Hz, 7%<br>700 to 1,000A<br>dc to 62 Hz, 6%<br>62 to 440 Hz, 8% |
| AC Power | 0.5 to 330 kW | 48 to 62 Hz<br>3.5% + 500W (pwr factor > 0.5)<br>390 to 410 Hz<br>4% + 500W (pwr factor > 0.9) |

**3.2 Crest factor.** 3.0 minimum.

**3.3 Temperature coefficient.** 6% x specification allowed for every °C outside range of 18 to 28°C.

**3.4 Heating limitation.** 5 minutes operating time for 120 A-kHz current-frequency product.

**3.5 Clamp size.** The jaws shall be capable of encompassing cables up to 60 mm (2.375 in) in diameter.

## 4. GENERAL REQUIREMENTS.

**4.1 Power source.** MIL-T-28800 dc internal power source requirements are invoked. The batteries shall be of a commercially available type and provide 100 hours of operation before replacement. The nominal power source requirements are not invoked.

**4.2 Weight.** 2 kg (4.4 lb) maximum including multimeter.

**4.3 Lithium batteries.** Per MIL-T-28800, lithium batteries are prohibited without prior authorization. A request for approval for the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.

**4.4 Transit case.** The transit case shall provide protection for all components of the probe assembly.